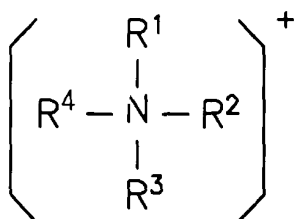


## ABSTRACT OF DISCLOSURE

An electrolyte in a lithium secondary battery includes an alkyl ammonium salt having a cation of the following Formula 1, a lithium salt, and an organic solvent:

Formula 1



wherein  $R^1$  to  $R^4$  are independently a  $C_1$  to  $C_6$  alkyl, a  $C_2$  to  $C_6$  alkenyl, or substituents thereof. The lithium secondary battery has improved cycle life, high rate characteristics, and a high energy density due to an increase of the average discharge voltage at a high rate.